

# Assessment of Nurses' Intervention toward Treatment Modalities of Oncology Unit in Baghdad Pediatric Hospitals

\*Athraa Ehsan Ahmed, \*\* Prof. Dr. Ilham Amin Jaddoue

\*MscN, Pediatric Health Nursing Department, Children Welfare Teaching Hospital/ Oncology Unit.  
\*\*Prof. Dr. of Nursing, Department of Pediatric Health Nursing, University of Baghdad/ College of Nursing.

**Abstract- Background:** Treatment modalities of oncology means therapeutic methods which used in the unit of tumors may be through surgery or radiotherapy or chemotherapy treatment or may meet more than one way to treat one type of tumors.

**Objectives:** To assess nurses' intervention toward treatment modalities of oncology unit in Baghdad Pediatric Hospitals.

**Methodology:** A descriptive analytic study in which a purposive " non- probability" sample of (40) nurses who are working in oncology unit at Baghdad Pediatric Hospitals. A questionnaire is developed as a tool for data collection. A pilot study is carried out to test the reliability of the questionnaire for the period from (11<sup>th</sup> April/2016 to 25 April/ 2016). The data is analyzed through the application of the descriptive data analysis approach (frequency, percentage, mean) and inferential data analysis approach (Chi- Square Tests) SPSS version (20).

**Results:** The study reveals that the females participants of the study are more than males, it is( 57.5%); within age groups (34years and more) the highest percentage (37.5%) of the study sample; more sample members are graduates from institutes, it is (52.5 %); the highest percentage of sample are married (52.5 %); years of experience in hospital indicate that the highest percentage of sample are (42 %) between (6-10 years); while years of experience in oncological ward indicate that the highest percentage of sample (27.5 %) are both percentage (less than 1 year) and (4-6 years); and the highest percentage of nurses have training course (62.5%), the total score of nurses knowledge are moderate (1.52), and the total score of nurses' intervention toward treatment modalities (1.44) are moderate and the total score of nurses' intervention toward side effect of treatment modalities (1.48) are moderate.

**Recommendations:** The researcher recommend encouragement of nurses' participation in a various scientific activities such as attend scientific meeting; seminars; symposiums; conferences and programs to improve their knowledge and

## I. INTRODUCTION

Cancer is the term still conjures up deep fears of a silent killer that creeps up on us without warning. Cancer, evoking such desperation that it has become a metaphor for sadness and pain, a scourge straining our intellectual and emotional resources. The numbers are such that each of us will be touched either as a patient, a family member or a friend. There are over 20 million

people living with cancer in the world today. The majority live in the developing world <sup>1</sup>.

## The Major Modalities of Therapy are:

- Surgery (for local and local-regional disease)
- Radiation therapy (for local and local-regional disease)
- Chemotherapy (for systemic disease)<sup>2</sup>.

## Surgery

The discipline of surgery is that part of medicine and medical practice that is likely to involve need of a surgical operation. The word surgery is also often used to mean operative surgery. Surgery was thus the first effective form of cancer treatment. It is now used to establish a diagnosis, to affect a cure or in some advanced or incurable cases to give good palliation and relief of symptoms <sup>3</sup>.

## Radiotherapy

Is the second oldest effective form of treatment for cancer but it has been clinically available only since about the year 1900 following the work of the Curies in France and Dr. Roentgen in Germany. Treatment depends upon the sensitivity of dividing cells being destroyed by X-rays or gamma rays emitted from a radioactive source <sup>3</sup>.

## Chemotherapy

It is anti-cancer drugs. Most often, these drugs are injected into a vein, into a muscle, under the skin, or taken by mouth. The drugs travel through the bloodstream to reach cancer cells all over the body. This makes chemo useful for cancers such as leukemia that has spread throughout the body. Most chemotherapy doesn't reach the area around the brain and spinal cord well, so it may need to be injected into the cerebrospinal fluid to kill cancer cells in that area <sup>4</sup>.

## II. METHODOLOGY

A descriptive study was conducted nurses' intervention toward treatment modalities of oncology unit during the period (18<sup>th</sup> November / 2015 to 15<sup>th</sup> July / 2016). The sample of nurses was (40) who working in pediatric oncology wards in Baghdad Hospitals. The data are analyzed through the application of statistical procedure and are using the package of SPSS version (20).

III. RESULTS

**Table (1) observed the frequencies and the present of demographic characteristics in the study.**

List	Demographic characteristics	Frequency	Percent
<b>1</b>	<b>Gender</b>		
	Male	17	42.5
	Female	23	57.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>
<b>2</b>	<b>Age (year)</b>		
	19 - 23	6	15.0
	24 - 28	13	32.5
	29 - 33	6	15.0
	34 - and more	15	37.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>
<b>3</b>	<b>Marital status</b>		
	Married	21	52.5
	Single	14	35.0
	Divorced	2	5.0
	Widowed	3	7.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>
<b>4</b>	<b>Educational level</b>		
	College	6	15.0
	Institute	21	52.5
	Secondary School	13	32.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>
<b>5</b>	<b>Years of experience in general nurses</b>		
	Less than 1 year	6	15.0
	1 - 5	7	17.5

	6 - 10	18	42.0
	11 - 15	2	5.0
	16 - 20	2	5.0
	21 - and more	5	12.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>
<b>6</b>	<b>Years of experience in oncology unit</b>		
	Less than 1 year	11	27.5
	1 - 3	6	15.0
	4 - 6	11	27.5
	7 - 9	8	20.0
	10 - 12	1	2.5
	13 and more	3	7.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>
<b>7</b>	<b>Training Courses</b>		
	Yes	25	62.5
	No	15	37.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>

**Table (1)** shows that the females of sample study are more than males, it is ( 57.5 % ) females and ( 42.5 % ) males, within age group of ( 34 and more ) years, the highest percentage ( 37.5 % ) of the study sample, the marital status shows that the highest percentage are married ( 52.5 % ) of the study sample, the nurse's educational level is institution it ( 52.5 % ), and the nurse's number shows that the highest percentage it is ( 55.0 % ) in Children Welfare Teaching Hospital, the years of experience in general nurses group ( 6 – 10 ) shows that the highest percentage ( 42.0 % ), and the years of experience inside oncological unit of nurse's group( Less than 1 years and 4 – 6 ) shows that the highest percentage ( 27.5 % ) in both of them, regarding training course, it indicates that the highest percentage are (62.5% %) they have training course.

**Table (2) Nurses' intervention concerning Treatment Modalities**

list	Items	Correct answer	Wrong answers	M.S	Ass.	RS
1	The most important measures to be taken to prevent infection	16	24	1.40	M.S	70.0
2	When it requires surgery should first adopt one of the following alternatives	21	19	1.52	M.S	76.0

3	the most important of nursing measures to be observed in a room bone marrow withdrawn	22	18	1.55	M.S	77.5
4	After a bone marrow withdrawn sample into account the following:	18	22	1.45	M.S	72.5
5	The main nursing intervention performed by nursing staff after the completion of any action nursing is documentation	25	15	1.62	M.S	81.0
6	The most important nursing measures to be observed by the patient radiation treatment	12	28	1.30	L.S	65.0
7	Nursing measures to be taken to the patient after all the false below radiotherapy exception	7	33	1.17	L.S	58.5
8	Before giving chemotherapy should be considered	14	26	1.35	M.S	67.5
9	When giving chemotherapy must putting cannula	26	14	1.65	M.S	82.5
<b>Total</b>		<b>161</b>	<b>199</b>	<b>1.44</b>	<b>M.S</b>	<b>72.0</b>

Mean of Score (MS) = Low Less than (1.33), Moderate = (1.33-1.67), High= More than (1.67)

Table (2) demonstrated the total mean score for nurses' intervention which indicate that there is moderate level of nurses' intervention concerning treatment modalities.

#### IV. DISCUSSION

##### Part I: Discussion of the Nurses' Demographic Characteristics distribution

The sample of the study consisted of ( 40 ) nurses working in the Oncology Unit at the Child Welfare Teaching Hospital, and Child's Central Teaching Hospital in Baghdad City.

Throughout the course of the present study **table (1.1)** indicates that more than half of the study sample are female (57.5%) the current study pointed out that the percent of female nurse was higher than male nurses, this result is supported by **(Christopher, 2005)<sup>5</sup>** whose study focused on (Nurse Practice Environments and Outcomes: Implications for Oncology Nursing) that revealed female nurses formed higher percent than male nurses (female nurses 97%) and this agreed with the beginning of the nursing history as the profession had started as a feminine job, another study done by **(Ibtisam, 2015)<sup>6</sup>**(Evaluation of the Nursing Intervention for Patients with Cancer Undergoing Chemotherapy in AL Amal National Hospital for Cancer Management and Baghdad Teaching Hospital) which reported that most of her study sample have been females (52.9% ) while males are (47.1%).

**Table (1.2 )** shows the distribution of the sample according to the results of nurses' age group that indicates more than ( 37.5 % ) of age is (34 years and more), these findings agreed with results obtained from study done by **(Al- Gannem, 2015)<sup>7</sup>** ( Effectiveness of Nursing Educational Program upon Nurses Knowledge and Practices Concerning Chemotherapy Precautions ) who indicated that (55%) of nurses in his study group were ( 31-40) years old, but another study disagreed with obtained results that study done by **(Samia , 2015)<sup>8</sup>** (Effectiveness of a Nursing Intervention Protocol for Chemotherapy Induced Neutropenia) who indicate that (70%) of age is (less than 30 years).

**Table (1.3)** shows that distribution of the sample according to the results of nurses' level of education, indicates that the highest percentage for institute is (52.5 %), the results of this study agreed with results conducted by **(Al- Ibady, 2011)<sup>9</sup>** whose study is about (Assessment of Nurses Knowledge and Practices toward Pain Management for Leukemic Child in Baghdad Pediatric Teaching Hospitals) indicated that the highest percentage of nurses is (65%) are nursing institute graduates. Also **(Al- Gannem, 2015)<sup>7</sup>**, whose study is (Effectiveness of Nursing Educational Program upon Nurses Knowledge and Practices Concerning Chemotherapy Precautions) indicated that (40%) of his sample were nursing institute graduates in the study group and (45% ) in the control group, and another study done by **(Hassam , 2015)<sup>10</sup>** whose study is (Effectiveness of an Educational Program on Nurses' Knowledge Concerning Side

Effect of Radiotherapy at Al-Amal National Hospital for Cancer Management in Baghdad governorate) the results of this study agreed with obtained findings that (40%) are nursing institute graduates.

**Table (1.4)** shows the distribution of the sample according to the results of nurses' marital status, it indicates that the highest percentage is married (52.5%), the results of this study agreed with results conducted by (**Hassam , 2015**)<sup>10</sup> whose study is (Effectiveness of an Educational Program on Nurses' Knowledge Concerning Side Effect of Radiotherapy at Al-Amal National Hospital for Cancer Management in Baghdad governorate). He demonstrated that (60%) are married in the study group and (56.7) are married in control group, another study agreed with obtained result that done by (**Al- Gannem, 2015**)<sup>7</sup> whose study is( Effectiveness of Nursing Educational Program upon Nurses Knowledge and Practices Concerning Chemotherapy Precautions ). He indicated that (85%) are married in the study group and (70%) are married in control group.

**Table (1.5)** shows the distribution of the sample according to the results of years of experience in general nursing, it indicates that the highest percentage is (42%) in (6-10 years). The results of this study disagree with results conducted by (**Soheir et al, 2015**)<sup>11</sup> whose study is(Evaluation of Handling Practices of Oncology Nurses during Chemotherapy Preparation and Administration in Menoufia Oncology Hospital) who demonstrate that the highest percentage of years' experience in general nursing is (60%) in (1-4 years), another study disagree with results conducted by ( **Najma et al, 2012**)<sup>12</sup>whose study is about (Assessment of Knowledge, Skills and Attitudes of Oncology Nurses in Chemotherapy Administration in Tertiary Hospital Pakistan) demonstrated that the highest percentage of years' experience in general is (51%) in (10 years and more).

**Table (1.6)** shows the distribution of the sample according to the results of years of experience in oncology ward, , it comes in a similar percentage (27.5%) for both groups experience (less than 1 year) and (4-6 years).The results of this study agreed with results conducted by (**Al- Gannem , 2012**)<sup>7</sup> whose study is (Effectiveness of Nursing Educational Program upon Nurses Knowledge and Practices Concerning Chemotherapy Precautions) demonstrated that the highest percentage of years' experience in oncology ward is (50%) in (1-5years), another study agreed with results conducted by (**Hassam, 2015**)<sup>10</sup> whose study is(Effectiveness of an Educational Program on Nurses' Knowledge Concerning Side Effect of Radiotherapy at Al-Amal National Hospital for Cancer Management in Baghdad Governorate) who demonstrated that (63.3%) in (1-5 years' experience in oncology ward).

**Table (1.7)** shows the distribution of the sample according to their involvement in the training courses, it indicates that the highest percentage is (62.5%) for those who engaged in training program. The results of this study agreed with results conducted by (**Ahmad et al. 2015**)<sup>13</sup> whose study is (The Nurses' Knowledge and Attitudes towards the Palliative Care). These findings revealed that more than half of the sample had obtained training course (59.4%) and the majority of them (57.9%) for less than 1 week, and another study done by (**Al- Gannem ,2015**)<sup>7</sup> a study ( Effectiveness of Nursing Educational Program upon Nurses Knowledge and Practices Concerning Chemotherapy

Precautions ) disagreed with the results that ( 95%) of study sample did not take any training session.

## **Part II: Nurses' intervention concerning Treatment Modalities**

**Table (2)** demonstrated the total mean score (1.44) for nurses' intervention which indicates that there is moderate level of nurses' intervention concerning treatment modalities (the most important measures to be taken to prevent infection, chose the alternatives when required surgery, nurses intervention in the room of bone marrow withdrawn, and after bone marrow withdrawn, nurses intervention after any action, nurses intervention before giving chemotherapy and site of cannula when giving chemotherapy) and the table shows that nurses have poor or inadequate knowledge concerning (nurses intervention before and after giving radiation therapy). These results supported by (**Ibtisam, 2015**)<sup>6</sup> whose study is focused on (Evaluation of the Nursing Intervention for Patients with Cancer Undergoing Chemotherapy in AL-Amal National Hospital for Cancer Management and Baghdad Teaching Hospital). That report agreed with results that demonstrated the mean of scores for the nursing intervention in preparing a dose of chemical treatment which was highly significant and mean of scores is moderate.

This results also; supported by (**Najma, 2012**)<sup>12</sup> whose study focused on (Assessment of Knowledge, Skill and Attitude of Oncology Nurses in Chemotherapy Administration in Tertiary Hospital Pakistan). That report with results that all these nursing procedures are commonly learnt in the basic nursing course and nurses are well aware of their use in their practices.

The overall finding of the skills indicated that out of (61) skills items in all three stages, (12) items where participants got more than 80% marks and (8) items got 50% marks. This study identified that nursing skills were weak at all three stages including pre administration during administration and post administration of chemotherapy. The nurses' skill was poor in all three stages in different skills items. In the pre- administration stage, these included items (check patient's allergies, calculate dosage based on body surface area, verify dosages with RN, and check drugs and identify modifiers with register nurse witness). During administration stage, the item includes: check patency of cannula in every shift until completion of therapy and item identify patient drug modifier. In the post administration stage, there was one item (disposes of cytotoxic agents. that's mean insufficient nurses' intervention toward treatment modalities.

## V. RECOMMENDATION

Based on the results of study toward treatment modalities, researcher recommends the followings:

- 1- Nurses should be encouraged to attend scientific meetings, programs, workshops, training and seminars in concern of treatment modalities to be acquainted with the most recent, advances and skills in the oncologic field.
- 2- Mandatory involvement in service educational program for nurses assign to work inside oncologic department.
- 3- Ongoing evaluation for nurses knowledge and improve their practices during any nursing intervention is based

on scientific knowledge by head of department and joints it with their improvement annually.

- 4- Encourage nurse's participant in scientific meeting, symposium, training abroad, and conferences in order to equip them with extend knowledge, skills and to make them able to offer safe care to patient.
- 5- Establishment of educational booklet prepared by the researcher which was initially based on nurses' responses to multiple choice item test in the study which reflect individual differences.
- 6- Further studies should be conducted toward importance of nurse's development and raising their standards.
- 7- Educational nursing schemes should be focused on bachelor degree and diploma of nursing institute only to limit the individual differences in knowledge and practices.

#### REFERENCES

- [1] World Health Organization (WHO) (2002). National Cancer Control Programmers. 2nd ed. PP: iii.
- [2] <http://www.msmanuals.com/professional/hematology-and-oncology/principles-of-cancer-therapy/modalities-of-cancer-therapy,2013>.
- [3] Frederick O. Stephens · Karl R. Aigner (2009). Basics of Oncology. Springer-Verlag Berlin Heidelberg. PP:90-95.
- [4] American Cancer Society (ACS).WWW.cancer.org.Leukemia- Acute Lymphocytic( Adult),2013.
- [5] Christopher R.: Nurse Practice Environments and Outcomes: Implications for Oncology Nursing, PhD thesis, 2005.
- [6] Ibtisam, A.: Evaluation of the Nursing Intervention for Patients with Cancer Undergoing Chemotherapy in AL\_Amal National Hospital for Cancer Management and Baghdad Teaching Hospital, PhD Thesis, University of Baghdad, College of nursing, August 2015.
- [7] Al- Gannem , A.: Effectiveness of Nursing Educational Program upon Nurses Knowledge and Practices Concerning Chemotherapy precautions ,Doctorate Dissertation, University of Baghdad, College of nursing, Unpublished doctorate dissertation , March , 2006.
- [8] Samia, M. and Hala, M.: Effectiveness of a Nursing Intervention Protocol for Chemotherapy Induced Neutropenia: Nurses and Patients' Related Outcome, December 2015.
- [9] Al- Ibady, Z.: Assessment of Nurses Knowledge and Practices toward Pain Management for Leukemic Child in Baghdad, PhD Thesis, University of Baghdad, College of Nursing, 2012.
- [10] Hassam, J. M.: Effectiveness of an Educational Program on Nurses' Knowledge Concerning Side Effect of Radiotherapy at Al-Amal National Hospital for Cancer Management in Baghdad City, PhD Thesis, University of Baghdad, College of nursing, August 2015.
- [11] Soheir, M. et al.: Evaluation of Handling Practices of Oncology Nurses during Chemotherapy Preparation and Administration in Menoufia Oncology Hospital, PhD Thesis, Menoufia University, College of Nursing, December 2015.
- [12] Najma, K. et al.: Assessment of knowledge, skill and attitude of oncology nurses in chemotherapy administration in tertiary hospital Pakistan, Pakistan, June 2012.
- [13] Ahmad, A. et al.: The Nurses' Knowledge and Attitudes towards the Palliative Care, PhD Thesis, Arab American University, Nursing Department, 2015.

#### AUTHORS

**First Author** – Athraa Ehsan Ahmed, MscN, Pediatric Health Nursing Department, Children Welfare Teaching Hospital/ Oncology Unit.  
**Second Author** – Prof. Dr. Ilham Amin Jaddoue, Prof. Dr. of Nursing, Department of Pediatric Health Nursing, University of Baghdad/ College of Nursing.